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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,071	06/27/2002	Alf Hammes	1999DE507	7262

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CLARIANT CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
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EXAMINER	
WHITE, EVERETT NMN	

ART UNIT	PAPER NUMBER
1623	9

DATE MAILED: 09/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/070,071	HAMMES, ALF	
	Examiner	Art Unit	
	EVERETT WHITE	1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 July 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. The amendment filed July 9, 2003 has been received, entered and carefully considered. The amendment affects the instant application accordingly:

(A) The abstract has been provided. The abstract have been written on separate sheet of paper;
(B) The title of the invention has been amended;
(C) New Claim 18 has been added.
(D) Claims 1-17 have been amended.
(E) Comments regarding Office Action have been provided drawn to
  (a) 102(b) rejection, which has been withdrawn;
  (b) 103(a) rejection, rendered moot by new ground of rejection over newly cited US Patent.

2. Claims 1-18 are pending in the case.

3. The text of those sections of title 35, U. S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

4. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Traill et al (US Patent No. 1.943,461) in view of Savage (US Patent No. 3,728,331).

Applicant claims a process for the depolymerization of hot water-coagulable cellulose ethers by hydrolytic degradation by means of acids, wherein the degradation is carried out at a temperature above the cloud point of the cellulose ether as concentrated aqueous slurry, and in addition, at least one oxidizing agent is added to the concentrated aqueous slurry, before, during and/or after the depolymerization in acidic or neutral medium. Additional limitations in the dependent claims include specific cellulose ethers; the viscosity of the degraded cellulose ether; the use of mineral acids and /or organic acids as the acids; specific mineral acids; the weight ratio of water to cellulose ether; specific oxidizing agents; specific amounts of oxidizing agents; the use of specific aqueous solution of a basic salt to washed the degraded cellulose ether after depolymerization.

The Traill et al patent discloses a process of treating high viscosity cellulose ether with a dilute acid at elevated temperature and pressure until the viscosity of the ether has been reduced as far as desired. The Traill et al patent discloses that the preparation of the cellulose ether preferably involve the cellulose ether being in comminuted form, of such fineness as to pass a 20-50 mesh screen, with a dilute acid or a mixture of diute acids (see page 1, 1st column, lines 17-21 and 33-38). The acids used in the process of the Traill et al patent may be either inorganic or organic and a single acid or a mixture of acids, diluted with water or other diluents compatible therewith. Examples of acids which may be adapted for use in the process of the Traill et al patent are hydrochloric, oxalic, acetic, formic, sulphuric, and phosphoric acids, and acid sulphates. See Example 1 of the Traill et al patent wherein ethyl cellulose is heated in an autoclave with ten times their weight of a 0.5% aqueous solution of hydrochloric acid, which resulted in a cellulose ether having a viscosity of between 5-10 c.g.s units. The process of the instant claims differ from process of the Traill et al patent by claiming the addition of at least one oxidizing agent to the aqueous slurry, before, during and/or after the depolymerization in acidic or neutral medium.

However, the Savage patent shows that the use of hydrogen peroxide, an oxidizing agent, in a process to depolymerize or reduce the viscosity of cellulose ethers is well known in the art. See the abstract of the Savage patent wherein reduction of the viscosity of cellulose ether is achieved by blending the cellulose ether with hydrogen peroxide. In column 2, 6th paragraph, the Savage patent further explained the relationship between viscosity reduction and depolymerization, wherein Savage discloses that basically the viscosity reduction is achieved by controlled oxidative depolymerization or scission of the backbone cellulose ether polymer chain. Also see column 3, 2nd paragraph wherein the Savage patent discloses using oxidizing agents at a concentration of 10 to 50 wt. percent aqueous solution. Furthermore, see column 3, 3rd paragraph, wherein Savage explains that in some systems peroxide oxidation is more effective under mild alkaline conditions, wherein a small amount of alkali, such as sodium carbonate, can be added if desired.

Applicants have only combined two well-known procedures for depolymerizing cellulose ethers to form the claimed process, that is, the process of using acids as suggested in the Traill et la patent and the process of using oxidizing agents as disclosed in the Savage patent.

One would be motivated to combine the teachings of the Traill et al and Savage patents in a rejection of the claims under 35 U.S.C. 103 since both patents disclose procedures for depolymerizing or reducing the viscosity of cellulose ethers. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the process of using an acid to depolymerize cellulose ethers as suggested in the Traill et al patent with process steps that involve treating the cellulose ether with an oxidizing agent for depolymerization of cellulose ethers, in view of the recognition in the art, as evidenced by the Savage patent, that such a procedure result in high yields and a readily controlled viscosity reduction.

5. Applicant's arguments with respect to Claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

6. Claims 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al (European Patent No. 497,985) in view of Savage (US Patent No. 3,728,331).

Applicants claim a methylhydroxypropylcellulose with a Hoppler viscosity, measured as 2.0% solution (absolutely dry) in water at 20°C, of less than 50 mPas, wherein the methylhydroxypropylcellulose has a whiteness, determined by measuring the reflectance in % at 447 nm against a white standard (enamel white standard; reflectance setting = 71.5%), which is above 50%, with a particle size distribution in which the proportion of particles with a size of less than 125 μm does not exceed 50%. Additional limitations in the independent clams include a viscosity of 5-50 mPas, a whiteness above 60% and a salt content less than 0.4% by weight, and the methyl-hydroxypropylcellulose having a content of methoxy groups in the range from 28 to 32% by weight and a content of hydroxypropyl group in the range from 5 to 9% by weight.

The Kobayashi EP patent discloses hydroxypropyl methyl cellulose, which has been pulverized to an average particle size of the order of 50 μm and depolymerized to a viscosity of 6 cSt - in a 2% aqueous solution at 20°C. Examples 1-4 of the Kobayashi EP patent discloses a yellow index of 10, 11, 9 and 8, respectively, which indicate the whiteness of the product. Kobayashi does not indicate a salt content greater than 0.4%. Also see page 6, lines 55 and 56, wherein the Kobayashi EP patent discloses hydroxypropyl methyl celluloses having a methoxy content of 29% and a hydroxypropyl content of 9%, which covers the methoxy content and hydroxypropyl content of the methylhydroxypropylcellulose set forth in instant Claim 16. Furthermore, see page 3, lines 11-24, wherein Kobayashi indicates that the cellulose ethers thereof can be used as a base for film-coating pharmaceuticals, which embraces the composition and coated composition of instant Claims 17 and 18.

The methylhydroxypropylcellulose of the instantly claimed invention differ from the methylhydroxypropylcellulose of the Kobayashi EP patent by claiming that the methylhydroxypropylcellulose has a particle size distribution in which the proportion of particles with a size of less than 125 μm does not exceed 50%. However, the Savage patent, which discloses cellulose ethers including hydroxypropylmethyl cellulose (see column 5, line 16), suggests that cellulose ethers having a particle size finer than about 20 mesh U.S. standard screen (850 μm) is well known in the art. The Savage patent discloses cellulose ethers for use in a variety of industrial applications.

One of ordinary skill in this art would be motivated to combine the teachings of the Kobayashi EP patent with the teachings of the Savage patent since both patents set forth hydroxypropylmethyl cellulose.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the hydroxypropylmethyl cellulose having a particle size of about 50 μm in the Kobayashi EP patent with a hydroxylpropylmethyl cellulose having a particle size finer than about 20 mesh in view of the recognition in the art, as evidenced by the Savage patent, that use of hydroxypropylmethyl cellulose having a particle size finer than 20 mesh is applicable to a variety of industrial applications.

7. Applicant's arguments with respect to Claims 12-18 have been considered but are moot in view of the new ground(s) of rejection.

Summary

8. Claims 1-18 are rejected.

Examiner's Telephone Number, Fax Number, and Other Information

9. For 24 hour access to patent application information 7 days per week, or for filing applications, please visit out website at **www.uspto.gov** and click on the button "Patent Electronic Business Center" for more information.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Everett White whose telephone number is (703) 308-4621. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson, can be reach on (703) 308-4624. The fax phone number for this Group is (703) 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1235.

E. White
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James O. Wilson
Supervisory Primary Examiner
Technology Center 1600